

SONY

CASSETTE-CORDER

TCM-5000EV

OPERATING INSTRUCTIONS

Please read this operating manual thoroughly before operating this high quality electronic unit, so that you can obtain the maximum enjoyment from it.

This manual should be retained for future reference and used to answer your operational questions as they arise.

OWNER'S RECORD

The model number is located at the rear and the serial number is located in the battery compartment.

Record the serial number in the space provided below.

Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. TCM5000EV

Serial No. _____

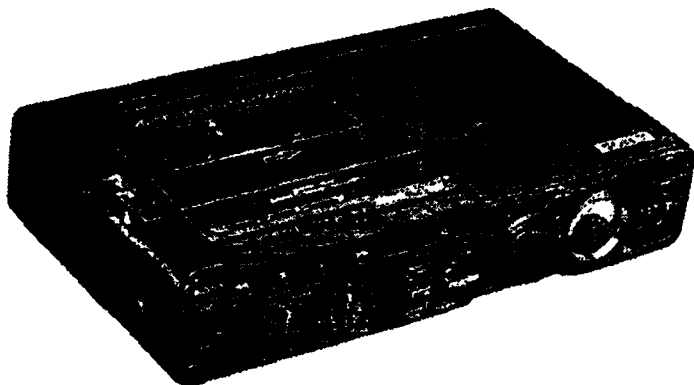


TABLE OF CONTENTS

Features	2
Precautions	2
Batteries	3
Cassette insertion	4
Playback	4
Recording with the built-in microphone ...	5
Recording with the external microphone...	6
Tips on playback/recording	6
Sound mixing	7
Recording from various sound sources ...	8
Notes on cassettes.....	10
Other power sources	10
Maintenance	11
Location and function of controls.....	12
Specifications	14
Optional accessories	14
Troubleshooting guide	15
To attach the shoulder strap	back cover

FEATURES

- Sony voice-operated recording system using the BBD (Bucket Brigade Device) IC starts and stops recording automatically according to your preset level.
- Three-head system which enables you to monitor the recorded sound while actual recording.
- Pre-end alarm system to warn you when the tape is about to run out.
- Auxiliary microphone jack for record mixing.
- Playback speed control plus cue and review functions to quickly catch and write down the tape contents.
- Eject lock mechanism prevents accidental opening of the cassette compartment lid.
- Four different power sources: batteries, house current, rechargeable battery, and car battery.

PRECAUTIONS

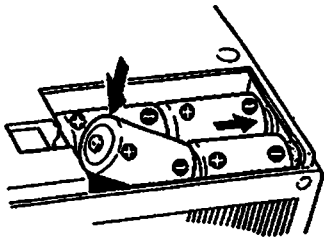
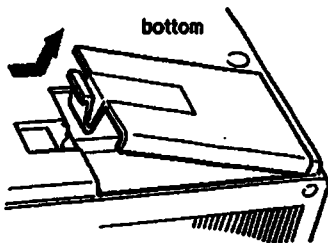
- Do not disassemble the casing. Refer servicing to qualified personnel only.
 - Operate the set only on 6V dc.
- For ac operation, use the ac power adaptor recommended for this set. Do not use any other ac power adaptor.
- For car battery operation, use the car battery cord recommended for this set. Do not use any other car battery cord.
- Do not leave the set in a location near heat sources such as radiators or airducts, or in a place subject to direct sunlight, excessive dust, moisture, rain, or mechanical shock.
 - Should any liquid or solid object fall into the set, remove the batteries and disconnect the ac power adaptor, and have the set checked by qualified personnel before operating it any further.
 - The record button cannot be depressed in the following cases. Never depress the button forcibly.
 - No cassette in the cassette compartment.
 - The cassette inserted has had the tabs removed.

If you have any question or problem concerning your set that is not covered in this manual, please consult the nearest Sony Service Station authorized to service tape recorders (in the USA) or the nearest Sony of Canada Factory Service Station (in Canada).

BATTERIES

Battery Installation

Insert four size C (IEC designation R14) batteries, with correct polarity.



- The set cannot be operated on the internal batteries when either the ac power adaptor or car battery cord is connected to the set.
- When the set is not to be used for a long period of time or is to be operated extensively on other power sources, remove the batteries to avoid set damage caused by battery leakage and corrosion.

Battery life

You can expect Sony SUM-2(NS) New Super batteries or Eveready Heavy Duty No. 1235 batteries to last for approximately 8 hours when recording from the built-in microphone.

- Intermittent use will prolong the useful battery life.
- The life of other type batteries or batteries of other manufacturers may be different.

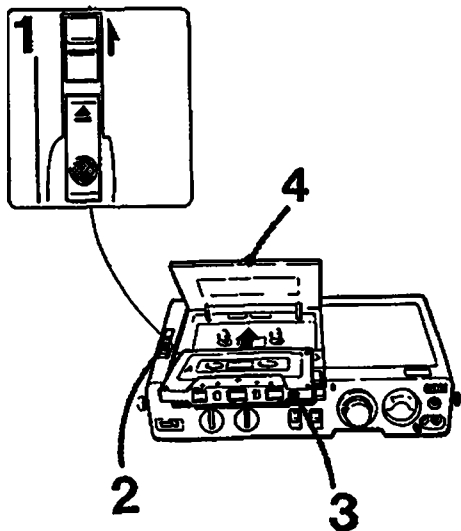
To check battery condition

While operating the set, keep the BATT CHECK/LIGHT button depressed and observe the pointer of the LEVEL/BATT meter. If the pointer of the meter does not reach the green zone, replace all the batteries with new ones. For critical recordings, new batteries are recommended.

For other power sources, see page 10.

CASSETTE INSERTION

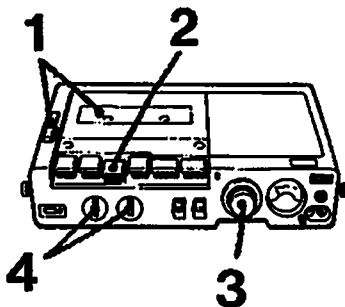
Take up any slack in the tape.



- 1 If necessary, release the LOCK lever, sliding it to the rear of the set.
- 2 Press the **EJECT** button to open the cassette compartment lid.
- 3 Insert a cassette with the desired side up, and tape surface toward you.
- 4 Close the lid.

To take out the cassette, press the **EJECT** button.

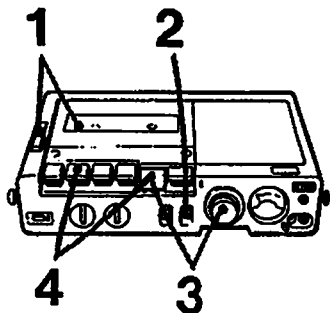
PLAYBACK



- 1 Insert a cassette.
- 2 Depress the **PLAY** button. Playback will begin.
- 3 Adjust the volume with the **REC/PB VOLUME/VOR SENS** control (inner black knob).
- 4 Adjust the tone quality with the **TONE** control and the playback speed with the **SPEED CONTROL**, if necessary.

To stop the tape, press the **STOP** button.
To rewind the tape, depress the **REVIEW/REW** button.
To advance the tape rapidly, depress the **CUE/FF** button.

RECORDING WITH THE BUILT-IN MICROPHONE



- 1 Insert a cassette.
- 2 Set the REC MODE selector to the desired position.

AUTO: for automatic recording. No recording level adjustment is necessary.

VOR*: for Sony voice-operated recording (see the right column.)

MANUAL: for manual recording.

- 3 Depress the ● RECORD button and adjust the recording level with the REC/PB VOLUME/VOR SENS control.

For voice-operated recording, normally set the control between 5 and 6. To record low-level sound, turn it toward MAX; to record high-level sound, turn it toward MIN.

For manual recording, turn the control so that the pointer of the LEVEL/BATT meter does not exceed "0" at program peaks.

- 4 While depressing the ● RECORD button, depress the ► PLAY button.

Recording will begin.

The built-in microphone will pick up sound from all directions.

To stop the tape, press the ■ STOP button.

Sony voice-operated recording system

In Sony voice-operated recording system, the tape runs only when the sounds higher than a set level are picked up and stops automatically if the level of the sounds become lower than the set level. The VOR indicator lights when recording is being made.

Once you have started the recording with the REC MODE selector set to VOR, you need not press the ■ STOP or || PAUSE button when there is no sound. In addition, you can listen to the tape recorded with this system smoothly, as it does not have long blank spaces.

The BBD (Bucket Brigade Device) IC used in this recorder ensures recording without cutting off the starting point.

To monitor while recording

Connect the supplied earphone or the optional CBH-2 headset into the EARPHONE jack. With the MONITOR switch set at SOURCE, source sound can be monitored, and at TAPE, the just-recorded sound on the tape can be monitored, through the earphone. Thus you can see that the recorder is surely recording by setting the MONITOR switch to the TAPE position.

RECORDING WITH THE EXTERNAL MICROPHONE

Connect an optional microphone with mini-plug to the MIC ① jack on the front panel. The built-in microphone is disconnected automatically.

A two-pin plug microphone provides a remote tape start/stop capability. Connect the microphone to the MIC ① and REMOTE jacks. Further recording procedure is the same as that of the recording with the built-in microphone.

TIPS ON PLAYBACK/RECORDING

Cue and review function

During playback, you may skip-over unnecessary portions of the tape by pressing the ►► CUE/FF button (cue function), or repeat a certain portion of the tape by pressing the ◀◀ REVIEW/REW button (review function). When the ►► CUE/FF or ◀◀ REVIEW/REW button is released, the recorder will automatically return to the playback mode.

Speed control

With the SPEED CONTROL knob, the playback speed can be adjusted. When transcribing or rapid listening, turn the knob to S (slow) or F (fast) to change the speed. With the knob at its center position (NORM), the normal speed can be obtained. This control has no effect on the recording speed.

Automatic shut-off mechanism

In playback or recording mode, tape motion stops at the end of the tape and the locked buttons will return to the original positions automatically.

In fast forward or rewind mode, however, the locked button will not be released automatically. Be sure to press the ■ STOP button to release it.

Pause button

Depress the ■ PAUSE button to stop the tape for a moment in playback or recording mode. To restart, press the button again to release it.

Tape counter and RESET button

Use the counter for indexing the tape contents. Press the RESET button to set the counter to "000".

Pre-end alarm

In recording mode, a few minutes before the tape ends the PEA (Pre-End Alarm) indicator begins to flicker. In addition, an alarm will sound when you are monitoring recording through an earphone.

Memory light

When operating the set in dark place, press the BATT CHECK/LIGHT button to light the LEVEL/BATT meter, so that you can easily adjust the volume and other controls. The meter will be illuminated for about 10 seconds.

ERASING WITHOUT RECORDING

A cassette can be erased without adding a new recording.

1 Insert the cassette.

If the safety tab has been removed, cover the slot (page 10).

2 Set the REC MODE selector to MANUAL.
Make sure that nothing is connected to the LINE IN, MIC ① and MIC ② jacks.

3 Turn the REC/PB VOLUME/VOR SENS control and the MIC ② LEVEL control fully to MIN.

4 Set the recorder in record mode.

For quicker and easier erasure of the entire tape contents, Sony BE-9H cassette eraser (optional) is recommended.

SOUND MIXING

When an auxiliary microphone is connected to the MIC ② jack at the right side, the sound from it will be recorded together with the sound from the built-in microphone, the MIC ① jack or the LINE IN jack.

The recording level from the MIC ② jack can be independently adjusted with the MIC ② LEVEL control (outer ring), regardless of the recording mode (AUTO, VOR or MANUAL) of the other input.

When the optional CBH-2 headset is connected to the MIC ① jack and the EARPHONE jack, your voice can be recorded with the other input while monitoring both.



Note

When you are not mixing the sound, be sure to disconnect the microphone from the MIC ② jack and turn the MIC ② LEVEL control fully to MIN.

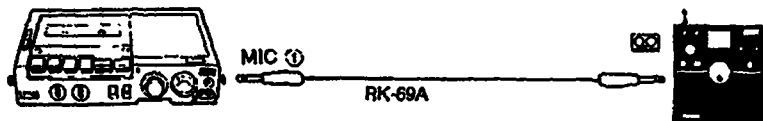
RECORDING FROM VARIOUS SOUND SOURCES

Notes

- Use the supplied RK-69A connecting cord or the optional RK-64A connecting cord.
- Set the REC MODE selector to AUTO or MANUAL.
- When recording from the LINE IN jack, remove any connections from the MIC ① jack.

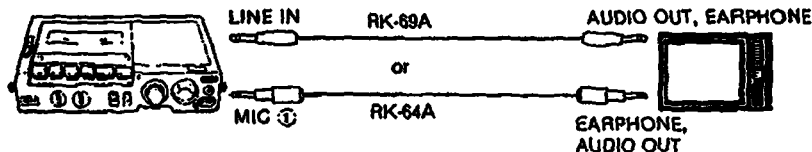
- Insert the connectors fully into the jacks. Loose connections may cause hum and noise.
- The sound to be recorded can be heard through the earphone.
- If your radio, TV, etc., is not a Sony product, refer to the instruction manual of that set.

① Recording from a radio equipped with a recording jack



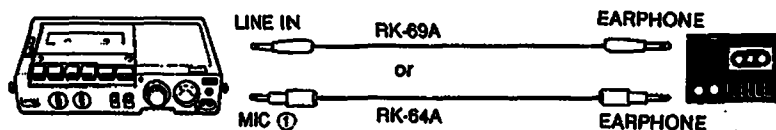
- 1 Tune in the desired radio program.
 - 2 Set the recorder in record mode.
- The volume setting on the radio has no effect on the recording.

② Recording from a TV



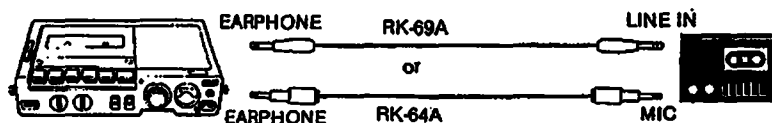
- 1 Tune in the desired TV program.
 - 2 Adjust the TV volume to a normal listening level when the recorder is connected to the earphone jack.
 - 3 Set the recorder in record mode.
- For connecting to the audio output jacks (phono jacks) of the TV, use the optional RK-105 connecting cord.

③ Duplicating from a monaural tape recorder



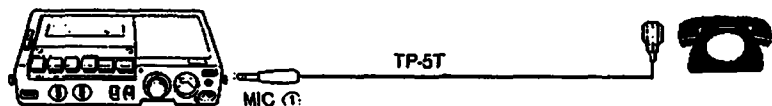
- 1 Set the other tape recorder in playback mode and adjust its volume so that the pointer of the LEVEL/BATT meter on the TCM-5000EV does not exceed "0" at program peaks. When the REC MODE selector is set to MANUAL, adjust the REC/PB VOLUME/VOR SENS control, too.
- 2 Set the TCM-5000EV in record mode.

④ Duplicating onto a monaural tape recorder



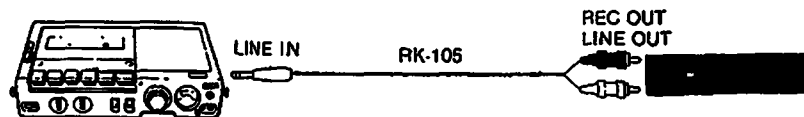
- 1 Set the REC/PB VOLUME/VOR SENS control to about 4.5 and the TCM-5000EV in playback mode.
- 2 Set the other tape recorder in record mode.

⑤ Recording telephone conversation



- 1 Attach the TP-5T telephone pick up (optional) to the telephone.
- 2 Set the REC MODE selector to MANUAL and adjust the recording level.
- 3 Set the recorder in record mode.

⑥ Recording from stereo components through an amplifier

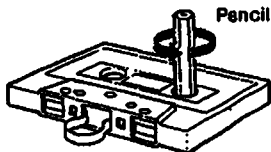


- 1 Play the program source.
 - 2 Set the recorder in record mode.
- The volume setting on the amplifier has no effect on the recording.

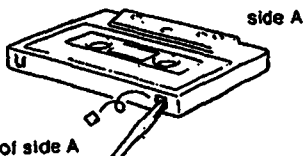
NOTES ON CASSETTES

Cassette insertion

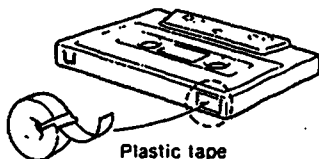
Before inserting a cassette, take up any slack in the tape to prevent it from becoming tangled around the capstan.



To protect cassettes from accidental erasure
Remove the tab so that the record mode does not function when the ● RECORD button is depressed.



To record on a cassette once tabs have been removed, simply cover the slot with plastic tape.



OTHER POWER SOURCES

HOUSE CURRENT

Use the optional Sony ac power adaptor AC-D4L. First, connect the adaptor to the DC IN 6V jack on the set, and then to a wall outlet. Before connecting, be sure to read the instruction manual for the adaptor.

CAR BATTERY

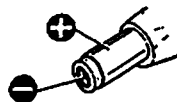
Use the optional Sony car battery cord DCC-127A (for 12 V car battery) or DCC-240 (for 24 V car battery), and connect the DC IN 6V jack on the set to the cigarette lighter socket of a car.

For further details, refer to the instruction manual of the car battery cord.

Before connecting, be sure to set the output voltage of the car battery cord to 6V.

When the ac power adaptor or the car battery cord is connected to the DC IN 6V jack, the internal batteries (if present) are automatically disconnected.

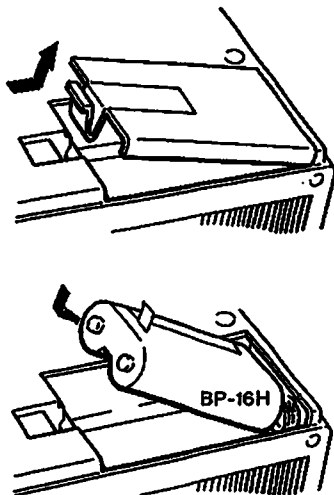
Note: Use only an ac power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



Polarity of the plug of Sony ac power adaptor or car battery cord

RECHARGEABLE BATTERY PACK

Install the Sony BP-16H rechargeable battery pack (optional) into the battery compartment instead of the batteries with the label side up and with correct polarity.



To charge the battery pack, connect the recorder to a wall outlet using the appropriate optional ac power adaptor. Charging time is about 21 hours. Approx. 8.5 hours of continuous recording from the built-in microphone is possible.

- The recorder can be operated while charging, although more charging time will be needed.
- The voltage of the rechargeable battery pack can be checked in the same way as for regular batteries.

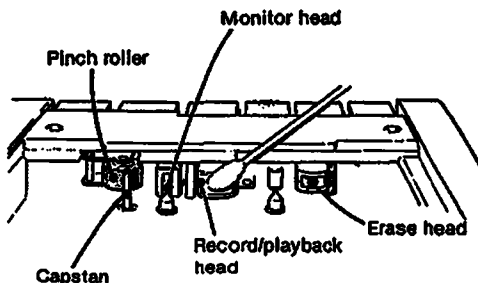
A nickel-cadmium battery such as the BP-16H will furnish a nearly constant voltage up to the end, and then drop quickly to a low value. To know the exact battery life remaining, record the length of time it has been used.

MAINTENANCE

CLEANING THE HEADS

Clean the heads after every 10 hours of use to enjoy optimum sound.

Moisten a cotton swab or soft cloth with denatured alcohol, and gently wipe the parts shown below.



Depress the ► **PLAY** button for easier access.

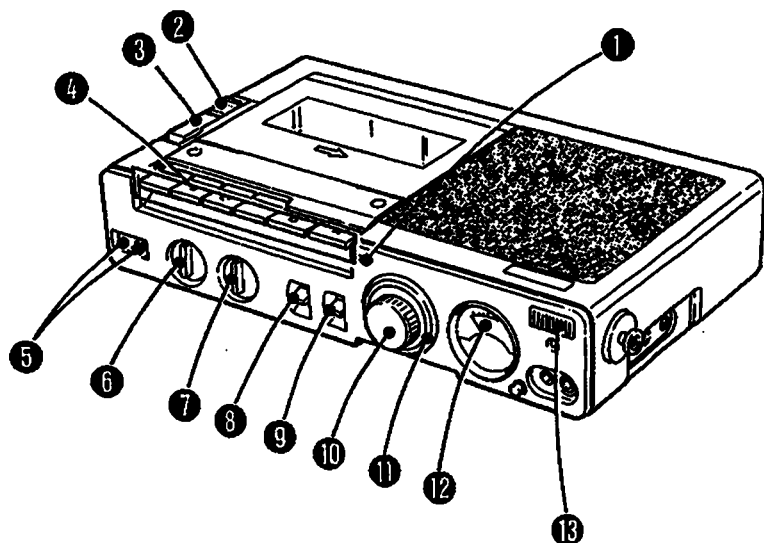
Insert the swab from the side as shown to avoid jamming the cotton between the pinch roller and capstan.

After cleaning, press the ■ **STOP** button.

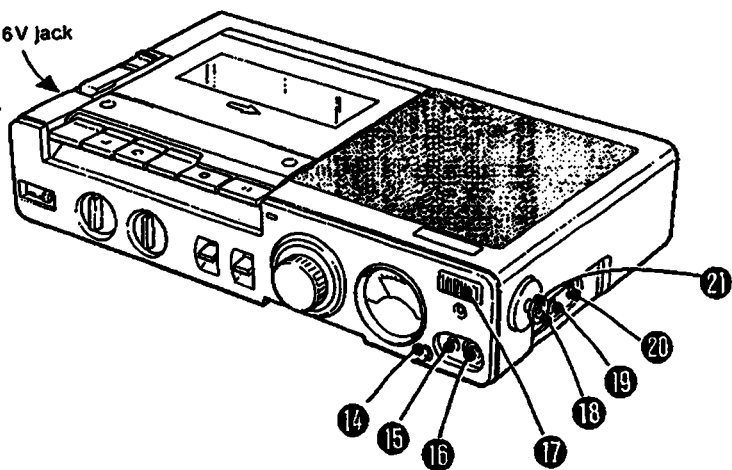
CLEANING THE CASING

Clean the casing with a soft cloth slightly moistened with water or a mild detergent solution. Do not use solvents such as alcohol, benzine, or thinner as they may mar the finish of the casing.

LOCATION AND FUNCTION OF CONTROLS



DC IN 6V Jack



① **PEA (pre-end alarm) indicator**

Flickers a few minutes before the end of the tape during recording.

② **▼ LOCK (eject lock) lever**

To lock the cassette compartment lid.

③ **▲ EJECT button**

④ **Tape operation mode select buttons**

◀◀ **REVIEW/REW (rewind) button**

■ **STOP button**

▶ **PLAY button**

▶▶ **CUE/FF (fast forward) button**

● **RECORD button**

⏸ **PAUSE button**

⑤ **Tape counter and RESET button**

To set the counter "000", press the RESET button.

⑥ **SPEED CONTROL**

Adjusts the playback speed.

⑦ **TONE control**

Adjusts the playback tone quality. Turn to HIGH for more treble, or LOW for less treble.

⑧ **MONITOR selector**

Selects the sound to be monitored through the earphone during recording.

⑨ **REC MODE (recording mode) selector**

Selects automatic recording (AUTO), Sony voice-operated recording (VOR) or manual recording (MANUAL).

⑩ **REC/PB VOLUME/VOR SENS (recording level/playback volume/VOR sensitivity) control**

Adjusts the recording level of the built-in microphone, MIC ① jack or LINE IN jack with the REC MODE selector set to MANUAL; playback volume; or the recording level to activate the VOR recording with the REC MODE selector set to VOR.

⑪ **MIC ② LEVEL control**

Adjusts the recording level of the microphone connected to the MIC ② jack.

⑫ **LEVEL/BATT (level/battery) meter**

Indicates recording level during recording, playback level during playback, and shows battery condition when the BATT CHECK/LIGHT button is depressed while the set is operating.

⑬ **MIC (built-in microphone)**

⑭ **BATT CHECK/LIGHT (battery check/memory light) button**

While this button is depressed with the set in operation, the meter shows the battery condition. The meter will be illuminated for about 10 seconds when this button is once pressed.

⑮ **REMOTE control jack**

Accepts an optional remote control, foot switch or the thinner pin of a 2-pin plug microphone with remote tape stop/start facility.

⑯ **MIC ① jack**

Connect an optional external microphone.

⑰ **VOR (voice-operated recording) indicator**

Lights up when the tape is being recorded in VOR recording.

⑱ **EARPHONE jack**

⑲ **LINE IN jack (mini)jack**

Used for recording from another tape recorder, etc.

⑳ **MIC ② jack**

Connect an external microphone for mixing.

㉑ **Projection for shoulder strap**

To attach the supplied shoulder strap, see back cover.

SPECIFICATIONS

Recording system	2-track 1-channel monaural
Speaker	Approx. 9.2cm (3 3/8 inches) dia.
Fast winding time	Approx. 2 min. with Sony C-60 cassette
Playback speed	-20% adjustable
Frequency response	90-9,000 Hz
Inputs	VOR recording: 300-5,000 Hz
	Microphone input (minijack)
	sensitivity 0.2 mV (-72 dB) for low impedance microphone
	Mixing microphone input (minijack)
Output	sensitivity 0.44 mV (-65 dB) for low impedance microphone
	Line input (minijack)
	sensitivity 0.06 V (-22 dB)
	Input impedance 100 kilohms
Other jack	Earphone (minijack)
	for 8 to 300 ohm earphone or load impedance 10 kilohms or higher
Power output	Remote control jack
Power requirements	700 mW (at 10% harmonic distortion)
	6V dc
	4 batteries size C (IEC designation R14)
	or optional Sony BP-16H rechargeable battery pack
	DC IN 6V jack accepts:
	optional Sony AC-D4L ac power adaptor for use on 120V ac, 60 Hz
	optional Sony DCC-127A car battery cord for use on 12 V car battery
	optional Sony DCC-240 car battery cord for use on 24 V car battery

Battery life

Batteries	Recording	Playback
Sony SUM-2(NS) New Super or Eveready Heavy Duty No. 1235 batteries	Approx. 8 hours	Approx. 7 hours
Eveready No. E93 alkaline batteries	Approx. 20 hours	Approx. 20 hours

Dimensions	Approx. 270.8 x 58.4 x 154 mm (w/td) (10 3/4 x 2 1/4 x 6 1/8 inches) incl. projecting parts and controls
Weight	Approx. 1.45 kg (3 lb 4 oz) incl. batteries
Supplied accessories	Earphone (1) Sony SUM-2(NS) New Super batteries (4) Connecting cord RK-69A (miniplug to miniplug) (1) Carrying case (1) Shoulder strap (1)

Design and specifications subject to change without notice.

OPTIONAL ACCESSORIES

AC power adaptor	AC-D4L, AC-D468 (for charging BP-16H)
Battery pack	BP-16H
Car battery cord	DCC-127A, DCC-240
Headset	CBH-2
Electret condenser microphone	ECM-16T, ECM-D15, ECM-220T
Dynamic microphone	F-V30T, F-V40T, F-250S (S type microphone provides remote start/stop capability.)
Connecting cord	RK-64A (miniplug to miniplug with attenuator)
Foot switch	FS-10, FS-10A
Telephone pick up	TP-5T
Cassette eraser	BE-9H
Head cleaning kit	KK-3

Continued trouble-free operation of any tape recorder is dependent on the quality of the cassettes used in conjunction with it. The use of Sony cassettes is recommended for high quality recording and trouble-free operation.

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

TROUBLESHOOTING GUIDE

Should any problem occur with the set, make the following simple tests to determine whether or not servicing is required.

If the problem persists after you have made these tests, consult the nearest Sony Service Station authorized to service tape recorders (in the USA) or the nearest Sony of Canada Factory Service Station (in Canada).

The cassette compartment lid does not open.

- The LOCK lever is slid to the LOCK position.

Cassette cannot be inserted.

- Cassette is being inserted improperly. See page 4.
- The ► PLAY button is depressed.

The ● RECORD button cannot be depressed.

- No cassette in the cassette compartment.
- The cassette inserted has had the tabs removed. Cover the slot with a small piece of cellophane or vinyl tape.
- The ► PLAY, ◀◀ REVIEW/REW or ►► CUE/FF button has been depressed.

Tape does not move.

- The ac power adaptor is not connected (on ac operation).
- Battery operation is attempted while the ac power adaptor or car battery cord is connected to the recorder but not to the wall outlet or the cigarette lighter socket.
- Incorrect polarity of batteries.
- Weak batteries.
- The || PAUSE button is locked.
- An external microphone is connected with its remote switch set to OFF.

No sound from the speaker.

- The earphone is plugged in.
- The REC/PB VOLUME/VOR SENS control is turned down completely.

Weak or distorted sound.

- Weak batteries.

Sound drop-outs, loss of high frequencies, or excessive noise.

- Dirty heads. See "MAINTENANCE" on page 11.

Tape speed is too slow.

- Weak batteries.

Recording cannot be made or is unsatisfactory.

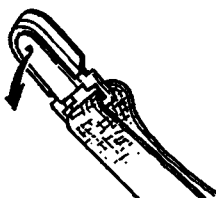
- Improper procedure or connection. See page 8 or 9.
- The REC/PB VOLUME/VOR SENS control turned down completely in VOR or manual recording.
- Weak batteries.
- Dirty record/playback head. See page 11.

Unsatisfactory erasing.

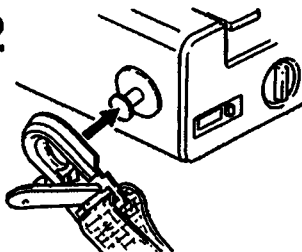
- Dirty erase head. See page 11.

TO ATTACH THE SHOULDER STRAP

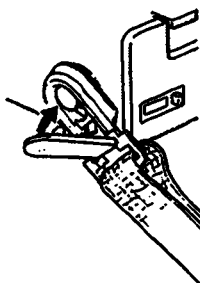
1



2



3



4

